

CLAIMS

1. A single crystal obtained by a single crystal pulling method, wherein an interval of striations incorporated into the single crystal due to temperature fluctuation of crystal melt at the time of crystal growth is controlled.

2. The single crystal according to Claim 1, wherein the interval of striations is controlled in the range of 1.5 mm or less or 2.3 mm or more in a plane perpendicular to an axis of crystal growth.

3. The single crystal according to Claim 1 or 2, wherein the single crystal is silicon and the resistivity thereof is $0.1 \Omega \cdot \text{cm}$ or less.

4. The single crystal according to any one of Claims 1 to 3, wherein a diameter of the silicon single crystal is 200 mm or more.

5. A single crystal wafer which is cut from the single crystal according to any one of Claims 1 to 4.

6. The single crystal wafer according to Claim 5, wherein an average of the maximum of the nanotopology level in the area of a 2 mm x 2 mm square is 14 nm or less over the whole surface of the single crystal wafer.

7. An epitaxial wafer, wherein an epitaxial layer is formed on the surface of the single crystal wafer according to Claim 5 or 6.

8. The epitaxial wafer according to Claim 7, wherein an average of the maximum of the nanotopology level in the area of a 2 mm x 2 mm square is 14 nm or less over the whole surface of the wafer of the epitaxial wafer.

9. A method of growing a single crystal according to a single crystal pulling method, wherein a growth rate and/or a temperature fluctuation period are controlled so that $V \times F / \sin \theta$ may be in a certain range when a growth rate at the time of growing a single crystal is defined as V (mm/min), a temperature fluctuation period of crystal melt is defined as F (min), and an angle to the level surface of a crystal-growth interface is defined as θ .

10. The method of growing a single crystal according to Claim 9, wherein the single crystal is grown so that the above-mentioned $V \times F / \sin \theta$ may be in the range of 1.5 mm or less or 2.3 mm or more.

11. The method of growing a single crystal according to Claim 9 or 10, wherein the single crystal to be grown is silicon, and resistivity thereof is set to $0.1 \Omega \cdot \text{cm}$ or less.

12. The method of growing a single crystal according to any one of Claims 9 to 11, wherein the control of the temperature fluctuation period of crystal melt is conducted by controlling any one item or more of an intensity of magnetic field to be impressed to crystal melt, a crucible rotation rate, a single crystal rotation rate, a gas flow rate, and an amount of crystal melt.